SAMSUNG

Digital Color Dome Camera **User's Guide**

SCC-B5354/B5355(S)

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Safety Precautions

CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE REAR COVER. NO USER SERVICEABLE PARTS INSIDE. REFER TO QUALIFIED SERVICE PERSONNEL.

This symbol indicates high voltage is present inside. It is dangerous to make any kind of contact with any inside part of this product.

This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

To prevent damage which may result in fire or electric shock hazard, do not expose this appliance to rain or moisture.

WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product
2. Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.
3. Do not connect multiple cameras to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.
4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
5. When installing the camera, fasten it securely and firmly. A falling camera may cause personal injury.
6. Do not place conductive objects (e.g. screwdrivers, coins, metal things, etc.) or containers filled with water on top of the camera. Doing so may cause personal injury due to fire, electric shock, or falling objects.
7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
8. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.

9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (SAMSUNG is not liable for problems caused by unauthorized modifications or attempted repair.)
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.

CAUTION

1. Do not drop objects on the product or apply strong shock to it. Keep away from a location subject to excessive vibration or magnetic interference.
2. If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.
3. Remove the power plug from the outlet when then there is a lightning. Neglecting to do so may cause fire or damage to the product.
4. Keep out of direct sunlight and heat radiation sources. It may cause fire.
5. Install it in a place with good ventilation.
6. Avoid aiming the camera directly towards extremely bright objects such as sun, as this may damage the CCD image sensor.
7. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
8. The Mains plug is used as a disconnect device and shall stay readily operable at any time

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1) This device may not cause harmful interference, and
2) This device must accept any interference received including interference that may cause undesired operation.

Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.
13. Unplug this apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or been dropped.

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Overview

About this guide

This user guide includes basic instructions for the product. It is recommended that all users read this guide before use.

This guide is divided as follows:

- Chapter 1, “Overview,” introduces the user guide and product related information. (This chapter)
- Chapter 2, “Installation,” explains how to set and install the product.
- Appendix, “Specifications,” provides the specifications of the product.

Product overview

This is the high resolution (540 TV lines) dome camera equipped with a Vari-focal lens, which has no dynamic delay when implementing motion pictures, and provides the features such as digital noise reduction (DNR) by real-time CCD defect compensation, low speed shutter (LSS: Auto x128) to implement clear picture quality, Day/Night color compensation, and the like.

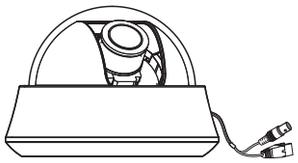
Main features

- Power: DC 12V/AC 24V
- Special functions
  - Line lock (LL) control
  - Auto white balancing
  - Horizontal/vertical image reversing
  - Flickerless control
  - Low shutter speed control
  - Backlight compensation control
  - Automatic switching between color and black & white modes
  - Equipped with vari-focal lens
  - Auto Iris function
  - Digital noise reduction (DNR)
  - Dynamic CCD defect compensation

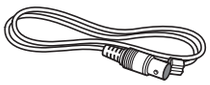
Components

Checking components in the package

Please check your camera and accessories are included in the package. Those components are as shown below:

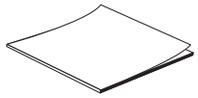


Camera



Test Monitor Cable

Tab screw



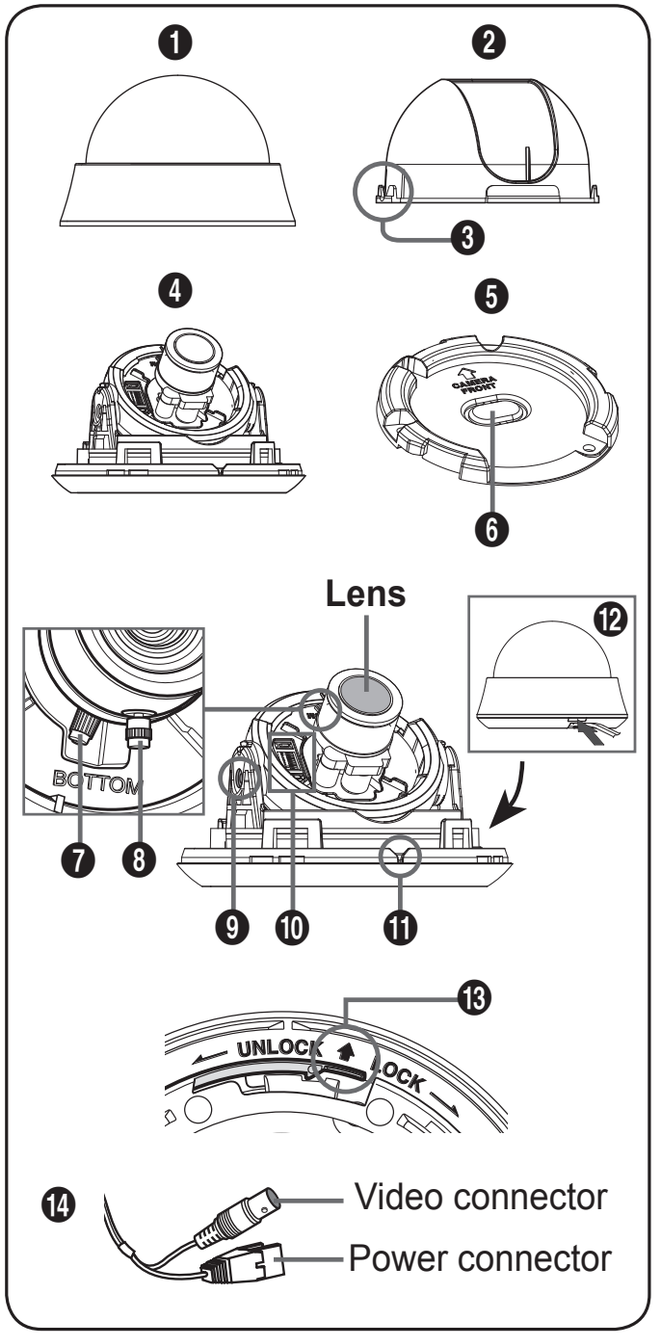
User’s Guide

Note

The test monitor cable is used to test the camera by connecting to a portable display. If you really want to connect the camera to a monitoring display, use the BNC cable.

Components of your camera

Your camera has the following components:

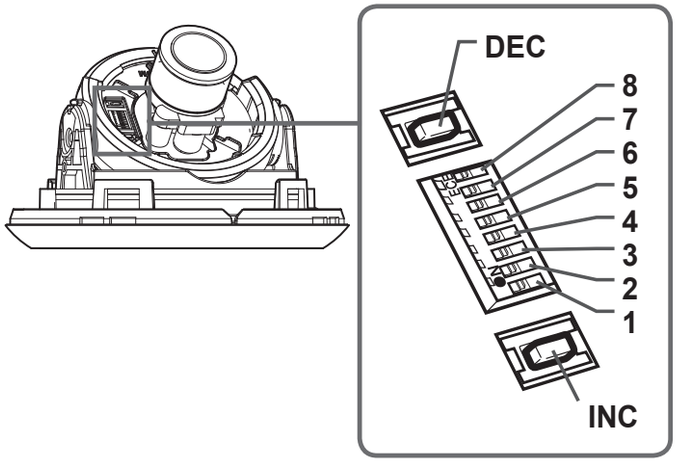


1. **Cover dome**: Covers the inner cover, lens, and main body to protect them.
2. **Inner cover**: Covers the main body to protect it.
3. **Wing locker**: Push a long thin screwdriver into its narrow spot and press it outward when you want to remove the inner cover.
4. **Main body**: Includes a lens, a switch board, a PCB board, screws, and such.
5. **Mount bracket**: Used as a ceiling or wall fixture. It is fixed using three long tab screws provided in the package.
6. **Ceiling mount opener**: Remove it for line connection to the ceiling when it is installed on the ceiling.
7. **Zoom lever**: Using this lever, the lens zoom can be adjusted and fixed.
8. **Focus lever**: The lens focus can be adjusted by rotating it left or right. Rotate it clockwise for fixing.
9. **Tilt fixing screw**: Using this screw, the slope of the lens can be adjusted and fixed.
10. **Switch board**: Includes two kinds of control switches such as function switches and phase-control switches. The board has eight function switches in the middle and two phase-control buttons on each side of the function switch area.
11. **Groove mark**: To attach the **Main body** to the **Mount bracket**, align this groove mark on the Main body with the wide groove in the CAMERA FRONT side on the Mount bracket.
12. **Locker**: Used to open or close the **Cover dome**. To open the cover dome, press the locker.
13. **Lock releaser**: Push it outward and rotate the main body in UNLOCK direction when you want to remove the **Mount bracket** from the **Main body** or to remove the installed camera from the Mount bracket.
14. **Cable**: Connect the Video connector to BNC cable and Power connector to power adapter.

Setting switches

Setting function switches

To set the available functions on your camera, adjust eight switches as shown below:



No	Name	Brief description
1	LL	Line lock ON/OFF
2	LSS	Sens-up or Low speed shutter ON/OFF
3	H-REV	Horizontal reverse ON/OFF
4	V-REV	Vertical reverse ON/OFF
5	BLC	Backlight compensation ON/OFF
6	FL	Flickerless ON/OFF
7	D/N	Automatic switching between color and black & white ON/OFF
8	AWB	Automatic white balance ON/OFF

1. **Switch 1 (LL)**: When this switch is set to **OFF**, the camera operates in the internal synchronization mode, while when it is set to **ON**, the camera operates in the line lock mode. In the internal synchronization mode, the camera always uses an inside crystal oscillator for synchronization. However if multiple cameras are connected to a sequential switcher, picture rolling or flickering may occur when switching from one camera to another. In this case, you can set this switch to **ON** to solve this problem.
   The line lock mode allows the camera to use the phase of the AC power as the synchronization reference. In this mode, you can use the phase control buttons(INC/DEC).

   Note

   When you are using the DC 12V power, set this switch to **OFF**. The line lock feature will not normally operate even when the switch is set to **ON**.

   Set the LL switch to **ON** while the AC power is connected. If any picture roll happens, you have to adjust the phase using the phase-control buttons. Press the **INC** or **DEC** button to increase or decrease the phase by one degree.

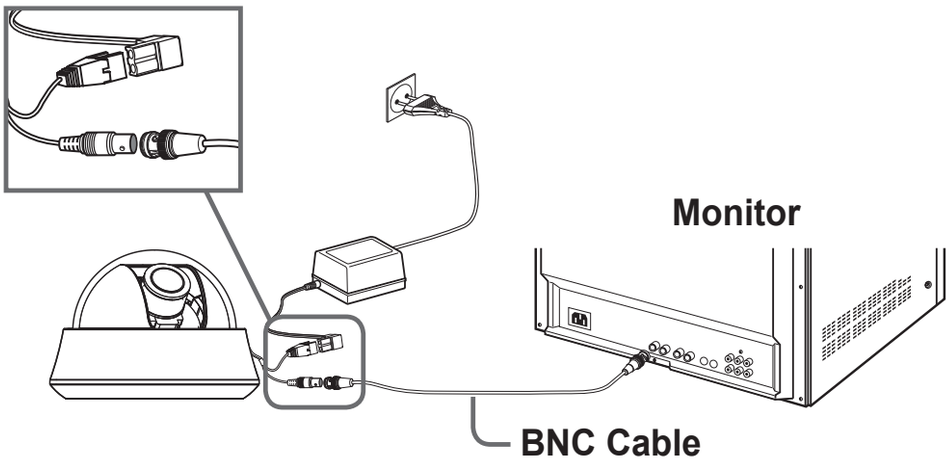
2. **Switch 2 (LSS)**: This sens-up mode accumulates the image fields in memory to reduce noise but increase the brightness and contrast rate. When this switch is set to **ON**, the camera automatically switches to a maximum of 128 times of image acquisition speed to implement a clear picture for darker image.
3. **Switch 3 (H-REV)**: When this switch is set to **ON**, the camera image is reversed horizontally. If you want to monitor your site using a mirror, you can use this feature to see the right image.
4. **Switch 4 (V-REV)**: When this switch is set to **ON**, the camera image is reversed vertically. If your camera reluctantly displays the vertically reversed image, you can use this feature to see the right image.
5. **Switch 5 (BLC)**: When this switch is set to **ON**, you can view a clear image even though the camera faces any excessive light such as sunlight and fluorescent light. When it is set to **OFF**, the subject with excessive light is not clearly shown.
6. **Switch 6 (FL)**: When this switch is set to **ON**, the shutter speed is fixed to 1/100 sec (for NTSC) or 1/120 sec (for PAL) to prevent screen from flickering by the disaccordance between vertical synchronous frequency (50Hz for NTSC, 60Hz for PAL) and on-and-off frequency of a light.
7. **Switch 7 (D/N)**: When this switch is set to **ON**, the camera automatically switches between color and B&W according to the brightness of the vicinity.
8. **Switch 8 (AWB)**: This switch adjusts white balancing. When this switch is set to **ON**, this camera operates in ATW mode, and in case of **OFF**, this camera operates in AWC mode.
   - ATW (Auto Tracking White Balance): The color temperature is automatically adjusted according to the environmental change. (Approx. 2000°K to 11,000°K)
   - AWC (Auto White Balance Control): It stores the color temperature just when the switch is changed to **OFF**. Accordingly color temperatures are adjusted by the stored value.

Caution

-. The IRIS setting range for the camera is approximately 80 to 120 IRE. It means the camera does not provide the IRIS full open/close feature but the restricted variation range.
-. Use the camera after setting to the proper level (80 IRE or above) because the IRIS hunting may occur when the level is 75 IRE or below.

Connecting cables and changing the settings

Before installing your camera, you have to adjust the lens focus, zoom, and switch settings.



To connect cables

1. Connect the BNC cable to the Video connector attached on your camera.
2. Connect the BNC cable to the Video Input on a monitor.
3. Connect the power adapter to the Power connector attached on your camera. When the monitor is turned on, the camera image appears.

To adjust the lens focus, zoom, and function settings

1. Remove the Cover dome and Inner cover. For more details about the removing procedures, see “Installation procedure,” in the Installing camera section on the next page.
2. Adjust the focus, zoom, and function settings of your camera using the Focus lever, Zoom lever, and Switch board while you are viewing the image on the screen.
3. If you want to fix the adjusted focus and zoom, screw up the levers.

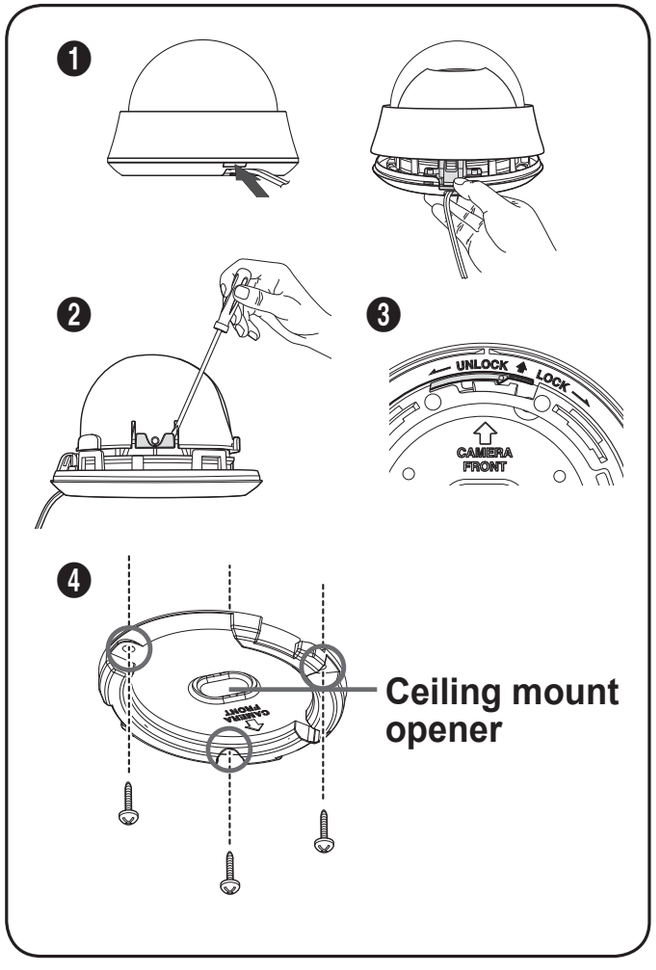
Installing camera

Before installation

Before installing your camera, you have to read the following cautions:

- You have to check whether the location (ceiling or wall) can bear five times the weight of your camera.
- Don't let the cable to be caught in improper place or the electric line cover to be damaged. Otherwise it may cause a breakdown or fire.
- When installing your camera, don't allow any person to approach the installation site. If you have any valuable things under the place, move them away.

Installation procedure



To install your camera

1. Press the **Locker** button on the bottom of your camera and remove the **Cover dome** from the **Main body** using the other hand. The Main body and Inner cover will be exposed to you.
2. To install and adjust your camera, you have to first remove the **Inner cover**. To remove the Inner cover from the Main body, push a long thin screwdriver into the narrow spot of the **Wing locker** and press it outward to remove the cover.
3. Remove the **Mount bracket** from the **Main body** by rotating the Main body in the UNLOCK direction while pushing the **Lock releaser** outward. If it is not easily done, rotate the Mount bracket in the LOCK direction while holding small holes on the Mount bracket.
4. Fix the **Mount bracket** to the location (ceiling or wall) with supplied three screws.

Note

The CAMERA FRONT sign on the **Mount bracket** should face the camera monitoring area.

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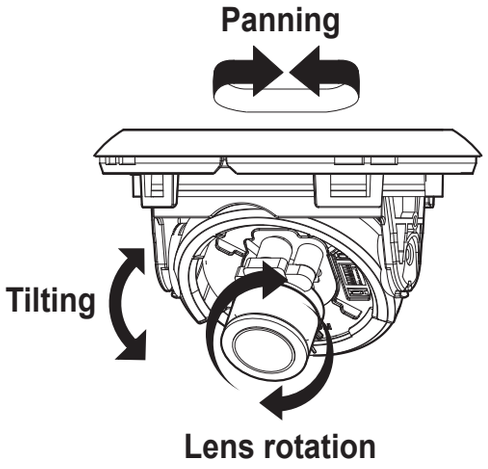
5. When you install the **Mount bracket** on the ceiling, remove the **Ceiling mount opener** by pressing it hard to connect the line attached on your camera through the hole in the ceiling. Otherwise, you can use the empty space opposite to the CAMERA FRONT sign for line connection.
6. Now attach the **Main body** to the **Mount bracket** by rotating it in the LOCK direction after aligning the **Groove mark** on the Main body with the wide groove around the CAMERA FRONT inlay.
7. Adjust the camera direction. For more details on the direction control, see “Adjusting the camera direction,” on the same page. When required to adjust the zoom and focus for your camera, see “Connecting cables and changing the settings,” on page 10.
8. Attach the **Inner cover** to the **Main body** by pressing it until a “click” sound is heard after aligning two screw holes on the **Wing lockers** of the **Inner cover** with two screw holes on the Main body’s left and right sides.
9. Finally attach the **Cover dome** to the **Main body** by pressing it until a “click” sound is heard after aligning the bump inside the Cover dome with the **Groove mark** on the Main body.

Adjusting the camera direction

When the camera is fixed on the ceiling, you can adjust the camera viewing angle. You can rotate your camera leftward or rightward (Panning), and can change the slope of your camera upward or downward (Tilting).



In case of panning, the rotation limit of your camera is set to 355 degree (100 degree clockwise and 255 degree counterclockwise). The rotation is stopped by the **Stopper** inside of the camera. For panning control, first unfasten two screws located on the bottom and rotate in the direction you want, and then fasten them to fix the camera.

In case of tilting, you can change the slope of your camera from zero to 90 degree. However if the slope angle is under 17 degree, you can encounter a partial image hide problem. To fix the location after adjusting the tilting angle, use the **Tilt fixing screws**.

To adjust the focus and zoom of your camera, use the **Zoom lever** and **Focus lever**. When you install the camera on the inclined ceiling or wall, you can rotate the camera lens to see a correct direction image.

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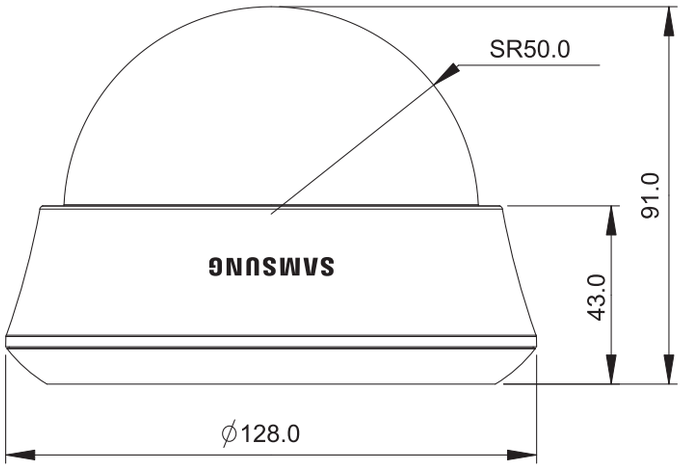
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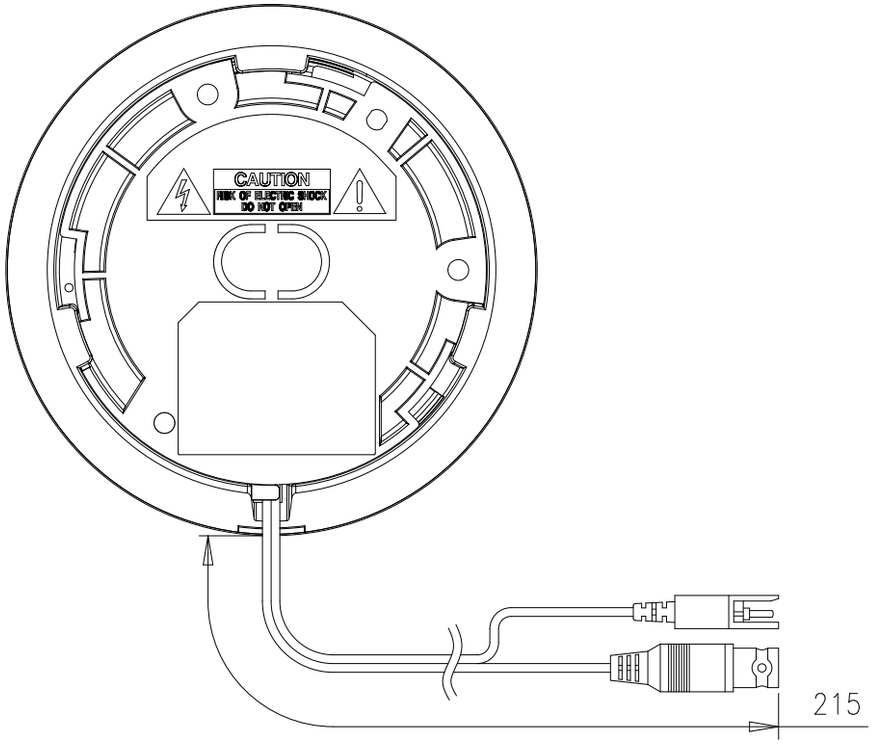
CAUTION
RISK OF ELECTRIC SHOCK
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Appendix A: Specifications for NTSC Standard

Item	Details				
Product type	CCTV color dome camera				
Power input	AC 24V ± 10% (60Hz ± 0.3 Hz), DC 12V +10%/-5%				
Broadcast type	NTSC Standard System (525 Lines, 60 Fields)				
Power consumption	Approx. 1.7W				
Image device	1/3 inch IT Type Super-HAD CCD				
Pixels	**Total**: 811(H) x 508(V), 410,000 pixels **Effective**: 768(H) x 494(V), 380,000 pixels				
Scanning mode	525 Lines, 2:1 Interlace				
Scanning line frequency	**Horizontal**: 15.734Hz(INT)/15.750Hz(LL) **Vertical**: 59.94Hz(INT)/60Hz(LL)				
Synchronization mode	INT/Line Lock (Adjusting the phase using INC/DEC button)				
Horizontal resolution	540 TV Lines				
S/N Ratio	Approx. 50dB				
Min. object illumination				SCC-B5355 (Color/BW)	SCC-B5354 (Color/BW)
	F1.2	Sens-up Off	50IRE	0.4/0.04Lux	0.4/0.4Lux
			30IRE	0.24/0.024Lux	0.24/0.24Lux
			15IRE	0.12/0.012Lux	0.12/0.12Lux
		Sens-up x128	50IRE	0.0031/0.00031Lux	0.0031/0.0031Lux
			30IRE	0,0019/0.00019Lux	0.0019/0.0019Lux
			15IRE	0.0009/0.00009Lux	0.0009/0.0009Lux
Signal output	COMPOSITE Video(1.0 Vp-p, 75ohm, BNC), Test Monitor OUT(1.0 Vp-p, 75ohm, Harness cable)				
Lens	Auto Iris (DC) / Focal length: 2.9 ~ 10.0mm / Aperture ratio: 1.2				
PAN function	Range: 0 to 355° (100 degree clockwise and 255 degree counterclockwise)				
TILT function	Range: 0 to 90°				
Controls	Line Lock (LL) Sens-Up; Low Speed Shutter(LSS) Horizontal Reverse (H-REV) Vertical Reverse (V-REV) Backlight compensation (BLC) Flickerless (FL) Switching between color and B&W modes (D/N) Auto white balancing (AWB) Digital noise reduction (DNR) Dynamic CCD defect compensation				
Product color	SCC-B535xN : White / SCC-B535xSN : Dark Silver				
Operation temperature	-10°C to +50°C				
Operation humidity	Up to 90%				
Size	128(Ø) x 91(H)mm				
Weight	327g				

Appendix B: Specifications for PAL Standard

Item	Details				
Product type	CCTV color dome camera				
Power input	AC 24V ± 10% (50Hz ± 0.3 Hz), DC 12V +10%/-5%				
Broadcast type	PAL Standard System (625 Lines, 50 Fields)				
Power consumption	Approx. 1.7W				
Image device	1/3 inch IT Type Super-HAD CCD				
Pixels	**Total**: 795(H) x 596(V), 470,000 pixels **Effective**: 752(H) x 582(V), 440,000 pixels				
Scanning mode	625 Lines, 2:1 Interlace				
Scanning line frequency	**Horizontal**: 15.625Hz(INT)/15.625Hz(LL) **Vertical**: 50Hz(INT)/50Hz(LL)				
Synchronization mode	INT/Line Lock (Adjusting the phase using INC/DEC button)				
Horizontal resolution	540 TV Lines				
S/N Ratio	Approx. 50dB				
Min. object illumination				SCC-B5355 (Color/BW)	SCC-B5354 (Color/BW)
	F1.2	Sens-up Off	50IRE	0.4/0.04Lux	0.4/0.4Lux
			30IRE	0.24/0.024Lux	0.24/0.24Lux
			15IRE	0.12/0.012Lux	0.12/0.12Lux
		Sens-up x128	50IRE	0.0031/0.00031Lux	0.0031/0.0031Lux
			30IRE	0,0019/0.00019Lux	0.0019/0.0019Lux
			15IRE	0.0009/0.00009Lux	0.0009/0.0009Lux
Signal output	COMPOSITE Video(1.0 Vp-p, 75ohm, BNC), Test Monitor OUT(1.0 Vp-p, 75ohm, Harness cable)				
Lens	Auto Iris (DC) / Focal length: 2.9 ~ 10.0mm / Aperture ratio: 1.2				
PAN function	Range: 0 to 355° (100 degree clockwise and 255 degree counterclockwise)				
TILT function	Range: 0 to 90°				
Controls	Line Lock (LL) Sens-Up; Low Speed Shutter(LSS) Horizontal Reverse (H-REV) Vertical Reverse (V-REV) Backlight compensation (BLC) Flickerless (FL) Switching between color and B&W modes (D/N) Auto white balancing (AWB) Digital noise reduction (DNR) Dynamic CCD defect compensation				
Product color	SCC-B535xP : White / SCC-B535xSP : Dark Silver				
Operation temperature	-10°C to +50°C				
Operation humidity	Up to 90%				
Size	128(Ø) x 91(H)mm				
Weight	327g				

Correct Disposal of This Product

(Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

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